

NUCLEAR DIVISION NEWS

UNION
CARBIDE

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 1 — No. 11

OAK RIDGE, TENNESSEE

Thursday, July 2, 1970

CTC Translation System Filmed For TV in Italy

The Computing Technology Center's Russian-to-English translation program has again attracted international attention.

Recently a team of newsmen from RAI, the Italian Radio TV system, visited E. M. Kidd and Fred Hutton of CTC's Information Systems Department and Francois Kertesz of Oak Ridge National Laboratory. The crew was filming part of a three-hour documentary about computers to be used on Italian television.

Drew Wide Acclaim

The visitors were especially interested in CTC's Russian translation system, which was originally designed by Georgetown University and had drawn wide acclaim in 1966 when a special demonstration was made at the Conference of the Sciences and Humanities at Herceg-Novi, Yugoslavia.

The demonstration had been used to illustrate a paper read by ORNL's A. H. Snell for AEC Commissioner C. E. Larson, who was then president of the Nuclear Division. Dr. Larson had been unable to attend the conference because of other commitments.

Built-in 'Dictionary'

Basically, the program works this way. Key-punchers "transliterate" Russian text by substituting English letters and numerals for the 32 letters of the Russian alphabet. Then the cards are fed into the IBM-7090 computer which translates the material from a built-in Russian "dictionary" of several hundred thousand words. Since 1966, the system's "vocabulary" has been expanded considerably.

"The program does more than just replace Russian words with their English equivalent," Kidd said. "It rearranges the words, and, in some cases, inserts words. Russian, for example, does not have the word THE, but the computer inserts it wherever it appears necessary." It translates about 1,000 words per minute.

(Continued on Page 6)

Carbide Awards 3 New Contracts

Union Carbide Corporation's Nuclear Division has awarded contracts totaling approximately \$730,000 for materials and equipment to be used at the Oak Ridge Y-12 Plant and Oak Ridge Gaseous Diffusion Plant.

R. O. Deaderick Co., Knoxville, received a contract totaling \$370,250 for the manufacture of a 2-axis Numerator Machine for the Y-12 Plant.

A contract totaling \$209,265 was awarded the Noland Company, Machine Tool Division, Chattanooga, Tenn., for the manufacture of an ultra-precision round insert grinder. The grinder will be used at the Y-12 Plant.

The Oliver Springs Mining Company received a contract totaling \$152,000 for 15,000 tons of coal to be used at the Oak Ridge Gaseous Diffusion Plant.



FILMING FOR TV—Italian visitors are shown with Nuclear Division personnel. At top right are, from right, CTC's Fred Hutton and ORNL's Francois Kertesz with Valerie Zizza, who was in charge of the filming. At lower right is CTC's Mary Linda Moore.

AEC Selects Site in Kansas For Nuclear Waste Storage

The Atomic Energy Commission has announced the tentative selection of a site near Lyons, Kan., for an initial salt mine repository for the demonstration of long-term storage of solid high-level and long-lived low-level radioactive wastes.

Over the next year, additional geologic and safety studies will be conducted to confirm that all aspects of the operation at this location can be done safely. Some necessary preliminary activities are currently underway.

Would Cost \$25,000,000

The Commission will seek authority from the Congress for initiation of the project during Fiscal Year 1972. The cost to establish the project is estimated at approximately \$25,000,000.

Some 10,000 square miles of salt beds underlie the State of Kansas. Near Lyons the salt bed is some 300 feet thick and starts at a depth of about 800 feet. The radioactive waste material will be placed in rooms mined in the salt formations approximately 1,000 feet underground under conditions of safe and perpetual care.

The purpose of the demonstration project will be to provide technical data and experience on operational methods and costs of long-term storage of solidified high-level wastes which are generated by commercial processing plants that remove waste fission products from fuel that has been used in nuclear power stations. In addition, the waste management facility will provide long-term storage of solid materials contaminated with low-level radiation, principally the transuranium elements such as plu-

tonium generated at AEC installations.

Follows ORNL Project

After the project is authorized, it will take about three years to prepare it to start receiving low-level solid wastes. These wastes will be brought in while construction continues on the facility for the solid high-level wastes.

The demonstration project is a follow-up program to Project Salt Vault which was carried out by Oak Ridge National Laboratory in a mine near Lyons during the period from 1965 to 1967. Project Salt Vault demonstrated the safety and feasibility of handling highly radioactive wastes in an underground environment, determined the absence of detrimental radiation or heat effects on the salt, and provided engineering data permitting initiation

(Continued on Page 2)

Chemical, Plastics Facilities in Brazil Expanded by UCC

A \$65 million expansion of the chemicals and plastics complex of Union Carbide do Brasil S. A. has been completed. Dedication ceremonies were held recently at the site of the complex in Cubatão.

The expanded facilities will have an initial capacity of about half a billion pounds of chemicals and plastics, including polyethylene, vinyl chloride monomer, benzene, ethylene, and acetylene. These products are sold mainly to processors for use in the manufacture of industrial and consumer items.

The size and design of the facilities are such as to be economically competitive in world markets and the capacity will satisfy the present related markets in Brazil. The facilities will be readily expandable as Brazil's needs for petrochemicals increase. Wulff furnaces are being used in the production of ethylene, acetylene, and other related products.

For Safer Portal Flow

Improved Traffic Light System Planned for Bear Creek Road

Bear Creek Road, which already sports new portal directional signs, soon will have an improved light system to regulate peak-period morning traffic.

Four traffic lights (see map, P. 5) will be changed from "flash" to "cycle" systems from 7:15 a.m. to 8:17 a.m. daily, primarily to permit safer flow into and out of portal parking areas. The new system will go into effect Monday, July 6.

Lights affected by the change are those in front of the entrances to the North Portal (ORNL Biology), the North Portal (West), the Central Portal, and the West Portal.

Two-Minute Cycles

Under the new morning-only system, the lights will run through a recurring two-minute "green-amber-red" pattern. At present, these lights flash amber for east-west traffic and red for traffic from parking areas.

The new system will be timed to maintain traffic flow, while also increasing safety.

See flow chart of new traffic system on page 5.

West-bound drivers, which primarily includes persons coming to work, will face a simultaneous green light and green arrow (for turning into parking areas) for most of the two-minute cycle. The rest of the time will be divided between red and the "caution" amber.

No "Through Traffic"

Another change is that now there is a brief span in which there will be no "through traffic" — both east-bound and west-bound traffic will be stopped — and vehicles in parking areas will have "control exits and entrances;" and during this time, pedestrians can also cross the road more safely.

The two main points to be emphasized for the new system are:

1. The change is only in the morning hours of 7:15 through 8:17. At other times the system will remain as it is.
2. The traffic signal light at each of the four intersections (portal entrances) controls all traffic with no "through lanes."

In addition to the new directional signs and the planned traffic light system, a new visitors' parking lot has been completed on the top of the hill and north of the Administration Building. The entrance to this lot is at the west entrance of North Portal. Appropriate signs have been erected directing visitors to this lot.



VISITORS' FRIEND — Shown here are the traffic light and the new portal directional sign which will control exits and entrances into the North Portal (West) Parking Area. The other major portal entrances also have similar new signs.

Please Follow Lane Directional Guides

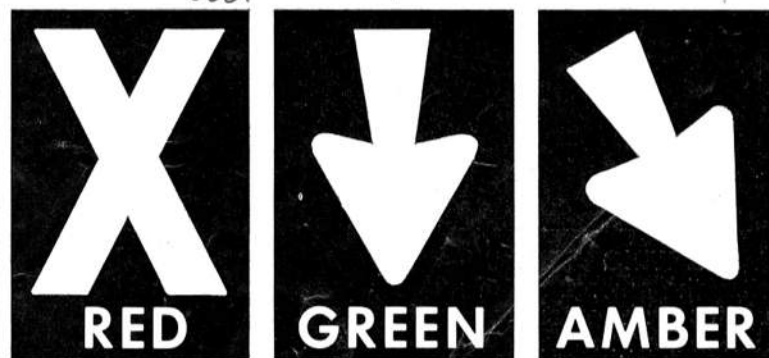
Y-12 drivers are urged to take special care to follow existing lane direction-control signals — the overhead controls which indicate the direction of traffic movement on individual lanes of Bear Creek Road.

Shown at the bottom of the page are the three lane-control signals which face Y-12 drivers. The Red X symbol means that a driver facing this operating signal shall not drive in the lane over which the signal is located.

The downward-pointing green arrow means that a driver facing this indication is permitted to drive in the lane.

The slanting amber arrow, which is a flashing signal, is the one that drivers most often fail to follow properly. The signal means that the driver must switch promptly to the adjacent lane in which the arrow points. Note: failure to do so puts the driver in danger by exposure to vehicles coming from the opposite direction.

These lane control signals are supplemented by a sign at Central (Continued on Page 5)



Award Plaques To Be Distributed

ORGDP, PGDP To Receive 'Symbolic Recognition' for Historic Role



ADMIRING AWARD—Roger F. Hibbs, president of the Nuclear Division, left, and Paul R. Vanstrum, vice president, right, admire the Kirkpatrick merit award presented to Union Carbide by Chemical Engineering. Replicas of the award are being made for later distribution to key departments which helped in the development of the gaseous diffusion process.

By JOHN HAFEEY

Can you imagine Astronaut Neil Armstrong saying nothing after stepping down on the moon for the first time?

Or the guys who built the Empire State Building being publicly silent about their accomplishment?

Several hundred scientists, engineers, craftsmen, and other employees at the Nuclear Division know this hard-to-imagine feeling very well. They, too, have made history. But, because of the important need to protect the nation's security, little public information—or personal recognition—has been possible for many individuals whose day-to-day decisions have been responsible for major contributions to science and technology.

Symbolic Recognition

At both the Oak Ridge and Paducah Gaseous Diffusion Plants, a special effort is being made to recognize "symbolically" the largely anonymous employees who have helped to transform the gaseous diffusion process from the very costly wartime technology—then practical only to supply material for nuclear weapons—to today's commercially attractive process which provides fuel for civilian power plants throughout the free world.

General details about the process were released by the U. S. Atomic Energy Commission in 1967, but protection of classified information still limits the opportunity to honor and give credit to the individuals who made the improvements possible.

Instead, Carbide's mechanism for a symbolic recognition will be distribution among key Nuclear Division departments of replicas of the Kirkpatrick Chemical Engineering Award, an honor won by Union Carbide's Nuclear Division last year.

The awards will be made periodically over the next few months. Details will be announced in **The Nuclear Division News**.

Process Now Competitive

Union Carbide, one of five to receive certificates of merit for outstanding chemical engineering group achievements that reached

commercial stature during 1967-68, was cited for the monumental scientific, engineering, and technical innovations necessary to develop the gaseous diffusion process to the point where nuclear power is now competitive with power from fossil fuels.

During Oak Ridge's historic early years, working with skill, in secrecy, and under almost unbelievable pressures, Carbide employees fashioned revolutionary materials and techniques which helped to end a war, thus saving thousands of lives. Since that time, both at Oak Ridge and Paducah, they have continued to work for the nation's defense while also making possible the widespread peaceful use of nuclear energy in the service of mankind.

The following paragraphs, from the nomination submitted by The University of Tennessee, summarize the development of the gaseous diffusion process which was recognized by the award.

Quotes from Nomination

"Nuclear electric power, until recently discussed only as a possible alternative to fossil fuels, has come of age, and more and more is being looked upon as an essential as well as economical means for supplying power demands of the future. The rise of this new industry to its attractive, competitive position would have been delayed greatly if the costs of uranium enrichment had not been reduced to their present level. The reduction of the costs of gaseous diffusion and its emergence as a commercially useful process represent an outstanding technological achievement.

"Following the historic fulfillment of its wartime mission, Carbide continued to operate the Oak Ridge Gaseous Diffusion Plant for the AEC, using the same philosophy and policies followed in managing their private operations. Thus, an aggressive research and development effort was mobilized to increase capacity and process efficiency and to reduce costs.

"The chemical engineering problems inherent in this technology can be appreciated by

considering the need for acres of stable, near-perfect, porous barriers, the prodigious pumping and attendant heat transfer requirements, and the corrosive nature of the UF process gas. Although U. S. industry could and did make major contributions in some areas, in many other areas, particularly in barrier development, the technology had to be entirely generated in-house.

"The overall nature of Carbide's achievement was spectacularly demonstrated by the first major advance in diffusion technology which was made in the capacity expansion of the early 1950's. The plants built then cost \$1.9 billion. If wartime technology had been used to add the same capacity, the cost would have been \$400 million lower for each subsequent year than they would have been if wartime barrier, compressors, and other design technology had been used. During the last half of the 1950 decade, highly significant increases in capacity were generated by major gains in the quality of barrier and other components. In the current decade (1960's), continued efforts have added further substantial know-how to most phases of this exceedingly challenging process technology, thus evolving the present attractive economics and capabilities of our nation's diffusion plants as described by the AEC for the first time last year. (Publication ORO 558, published in 1968).

"It is significant that the assessment of diffusion process economics by industry, particularly by foreign experts, was initially one of frank disbelief that the reported cost and performance figures could be correct, but there is now a general acceptance that U. S. diffusion technology is indeed highly advanced and that the process can serve the demands of the future."

PLAYING DUMB

Girls play dumb in chemistry class, says student, since they believe they are not expected to do as well as boys and do not wish to rival them in this 'masculine' area... SEVENTEEN Magazine.

AEC Selects Storage Site

(Continued from Page 1)
of the proposed full-scale demonstration project.

Recommended by Study

The desirability of bedded salt formations for long-term burial of radioactive wastes has been recognized for some time. In 1955, a committee on waste disposal was established by the National Academy of Sciences-National Research Council at the request of the AEC to consider possibilities of disposal of high-level wastes. After some study the committee reported that "the most promising method of disposal for high-level waste at the present time seems to be in salt deposits."

Salt has many characteristics that make it particularly attractive. It is widespread and abundant, underlying about 400,000 square miles in portions of 24 states in the United States; it has good structural properties, with a compressive strength similar to that of concrete; it is relatively

inexpensive to mine; its thermal properties are better than those of most other rock types; it occurs generally in areas of low seismicity. Most importantly, salt deposits are free of circulating ground waters and completely isolated from underground aquifers by essentially impermeable rocks. Furthermore, this situation tends to be preserved because any fractures which might develop are readily healed by plastic deformation of the salt.

ORNL Ships Isotopes

Radioisotope shipments from Oak Ridge National Laboratory during May totaled 175, bringing the number of shipments since January 1 to 1,057.

The May shipments represented 1,366 curies of radioactivity. A total of 628,041 curies has been shipped since January 1.

ORNL produces some 70 radioisotopes for sale and distribution.



A GROWING SERVICE—The Kirkpatrick Award cites the emergence of nuclear energy as a competitor with other sources of energy. The Toll Enrichment Program, which enriches uranium for nuclear customers throughout the free world, has

already contracted to provide more than \$1 billion in enriching services. At left, cylinders of the uranium feed material are unloaded for processing through the cascade at the Oak Ridge Gaseous Diffusion Plant, where the AEC's Toll Enrichment

facility is located. At right, cylinders of uranium feed material are being readied for a heat treatment, which is one of the steps in the process of toll enrichment. The rapidly growing service makes nuclear power competitive with fossil fuels.



COMPLETE COURSE STUDY — Congratulations to the above assemblymen for the completion of the six-weeks Assembly Training Course. Seated, left to right, are W. J. French and H. M. Littlejohn. Standing are W. L. Walden, G. R. Bridges, and D. E. Hunnicutt.

Credit Union Head Is Before U.S. Senate

Lorena Matthews, treasurer and manager of Y-12's Credit Union, testified recently before a U. S. Senate Committee in Washington. Representing the National Asso-

ciation of Federal Credit Unions, she was called in support of a bill which would provide share insurance coverage to depositors in federal credit unions.

Horseshoes, Anyone?

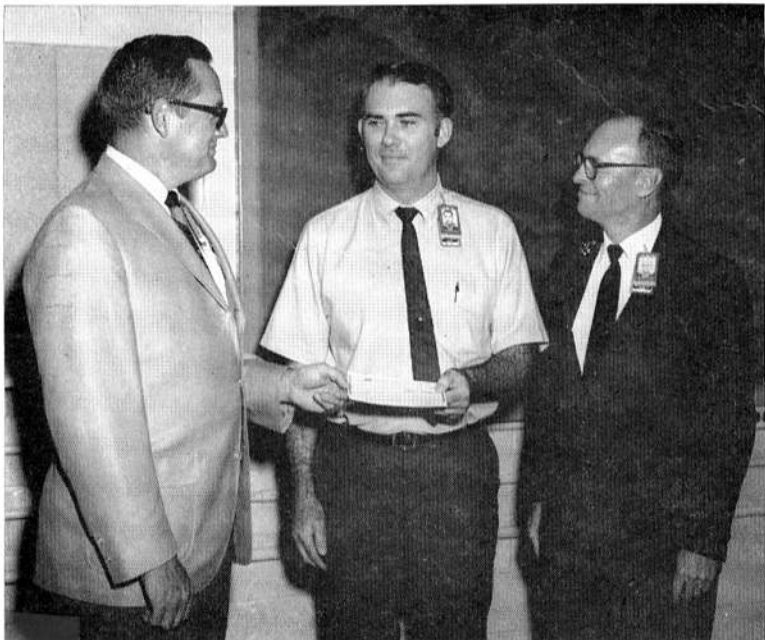
There will be time for a short Horseshoe League, says Recreation. Call your team of two men in today . . . it says here. Deadline is July 15.

Pitching will take place Thursday afternoons (late) at Jackson Square courts. Call teams in to extension 3-7109.

The bill, written by Senator Wallace F. Bennett, Utah, is currently in committee.

William Proxmire, senator from Wisconsin, chaired the committee, questioning representatives from credit unions from Florida to California.

There is no better bargain than a used safety rule.



FINAL 50 PERCENT—William F. May, Dispatching, center, recently received complete reimbursement under the Educational Assistance Program for his advanced degree. He receives his check from Bill Butturini, department superintendent, as Jack Nicholson, right, from Benefit Plans, looks on. May was graduated from The University of Tennessee last year with a master's degree in statistics.



The middle section of the year finds many more Y-12ers marking important days with Union Carbide Corporation. Congratulations.

25 YEARS

James H. Key, Process Maintenance, July 5.

Dewey E. Floyd, Area Five Maintenance, July 6.

Avis Collins, Alpha Five East Shop, July 8.

Arburth M. Maples, A-2 Shops, 9212, July 10.

Harvey C. Hankins, Jr., Tool Design, July 12.

20 YEARS

Mabel E. Tyer, Superintendents Division, July 3.

Robert S. Burdette, Chemical Services, July 10.

Arnold K. Self, Beta Two Chemistry, July 11.

William E. Gross, Assembly Operations, July 11.

15 YEARS

Wayne D. Turpin, General Metal Fabrication Shop, July 5.

Hoyt C. Huston, Alpha Five Processing, July 11.

Herbert L. Humphries, Gage Certification Laboratory, July 13.

Charles D. Johnson, Dimensional Inspection, July 13.

Edward F. Gibson, M-Wing Shop, July 15.

10 YEARS

Jack Conn, Fabrication Division Engineering, July 5.

William F. May, Special Production, Scheduling and Coordination, July 11.

Inspection's Green Dies in Knoxville

Mechanical Inspection sadly marks the death of Carl J. Green Thursday, June 18.

Mr. Green, a native of Booneville, Ky., came here in 1957, after hiring in at the Oak Ridge National Laboratory November 10, 1943. He had worked for the American Tool Company before entering service during World War II.

He is survived by his wife, Mrs. Irene S. Green, 1704 McClain Rd., Knoxville; sons, Lanny A. Green, who also works in Y-12; and Carter K. Green, a student at Memphis State University; parents, Mr. and Mrs. T. J. Green, Booneville; and sisters, Mrs. K. L. Davis, Roanoke, Va., Mrs. Stephen Gabbard, Bright, Ind., Mrs. Bessie G. Morgan, Lexington, Ky., Mrs. Herman Smith, Thompsonville, Ky., and Mrs. Charles Kilburn, Booneville.

Services were held Saturday at the Weaver Funeral Home, Knoxville, with the Reverends Geddes Orman and Kenneth Henderlight officiating. Graveside services were held Saturday afternoon at Shepard Cemetery in Booneville.

Sincere sympathy is extended to the Green family.



Mr. Green



Charles E. Dial



Jerry A. Huckabey

New Foremen Are Appointed In Fabrication

The Fabrication Division recently announced the promotion of three Y-12ers to machining foremen. They are Charles E. Dial, Machine Maintenance; Jerry A. Huckabey, Alpha Five East Shop; and Ernest M. Neal, General Machine Shop.

Charles E. Dial, a native of Loudoun County, lives at Route 1, Ford Rd., Lenoir City.

Before coming here he worked at Yale and Towne Manufacturing Company and served in the U. S. Air Force from 1949 until 1952. He came to Y-12 September 23, 1957.

Mrs. Dial is the former Nell Hill and the couple has two children, Charles, Jr., and Lisa.

Jerry A. Huckabey

A native of Sneedville, Tenn., Jerry A. Huckabey graduated from Oak Ridge High School. He was employed with the Pride Oil Company here from 1954 until 1956, and came to Y-12 February 8, 1960.

The Huckabey's live at 646 West Outer Dr., Oak Ridge. Mrs. Huckabey is the former Mary Shapherd. They have four children, Terry, Lora, Jay and Jeff.

Ernest M. Neal

Born in Rising Fawn, Ga., Ernest M. Neal lives at Route 3, Oliver Springs.

He worked with Hilltop Market and the A & P Store before coming here. Neal hired in at Y-12 October 2, 1950.

He is married to the former Ellen Wilder and they have four children, Gary, Stephen, Scott and Karen.

Life is too short to take long chances.

SAFETY SCOREBOARD

The Y-12 Plant Has
Operated
180 Days or
5,433,000 Man-Hours
(Unofficial Estimate)
Through June 28
Without A Disabling Injury
SAFETY AT HOME,
AT WORK, AT PLAY

Cum Laude Graduation For Y-12's R. M. Davis

Congratulations to Robert M. Davis, Materials Engineering Development Department. He graduated cum laude from Lincoln Memorial University, Harrogate, Tenn., June 7, with a BS degree in chemistry.



Davis

Davis has been attending LMU full-time in addition to working the second shift in Development. He came to work in Y-12 last September.

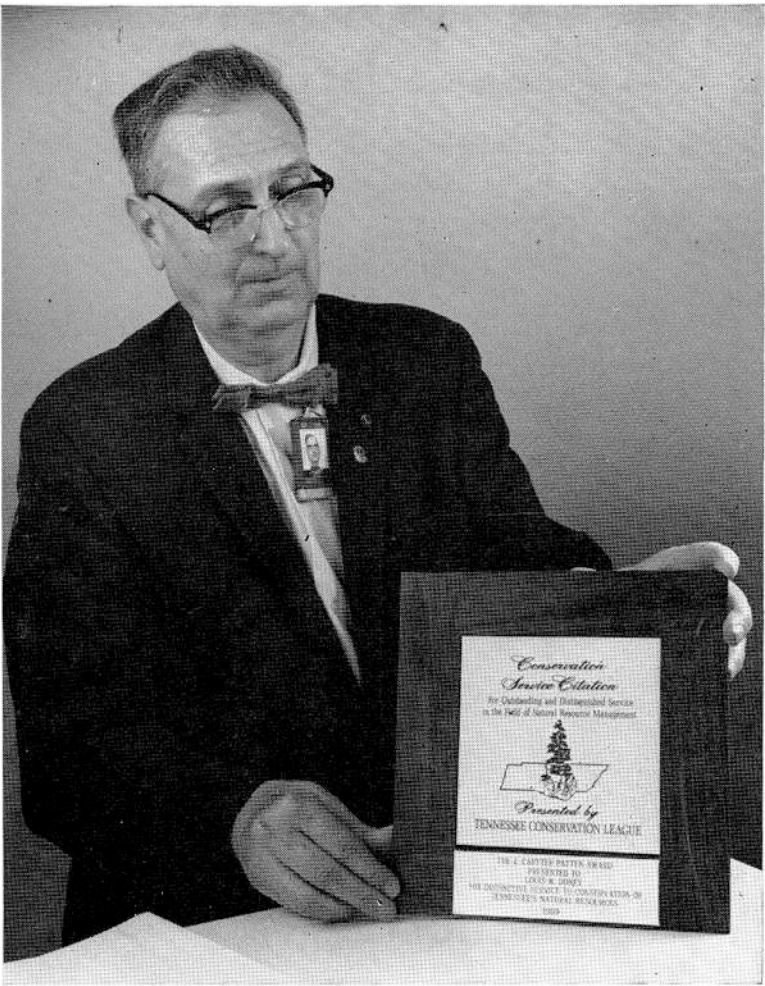
Davis and his wife live at 5604 Stoneleigh Dr., Knoxville, with their small child.



Will join car pool from Wade Lane, Oak Ridge, to East Portal, straight day. J. R. Williams, plant phone 3-5445.

Ride wanted or will consider joining car pool from 4309 Lammour Drive, West Hills section, Knoxville, to East Portal, straight day. Lloyd Krohn, plant phone 3-5226, home phone Knoxville 584-7652.

One car pool member wanted from Kingston to East Portal, straight day. Bill Chadwick, plant phone 3-5445, home phone Kingston 376-7849.



ECOLOGY—ENVIRONMENT—Everybody's interested in it, but Lou Doney, in Chemistry Development, does something about it. The Tennessee Conservation League recently presented Doney their service citation for outstanding and distinguished service in the field of natural resource management. The citation is called the Z. Cartter Patten award.

Recreation

- 

calendar
- Friday, July 3**
HOLIDAY — Y-12ers celebrate Independence Day with a long week-end!

Monday, July 6
13
SOFTBALL LEAGUE: 6:15, 7:30, 8:45 p.m., Pinewood Field.

Tuesday, July 7
14
GOLF: Melton Hill League, after work.
GOLF: South Hills League, after work.
SOFTBALL LEAGUE: 6:15, 7:30, 8:45 p.m., Pinewood Field.
PISTOL LEAGUE: 6 p.m. Oak Ridge Sportsmen's Association.

Thursday, July 9
16
SOFTBALL LEAGUE: 6:15, 7:30, 8:45 p.m. Pinewood Field.
GOLF: Southwest Point League, after work.

Sunday, July 19
SKEET TOURNAMENT: 1 p.m. Oak Ridge Sportsmen's Association.

Rogers-Verner in Lead On Melton Hill Greens

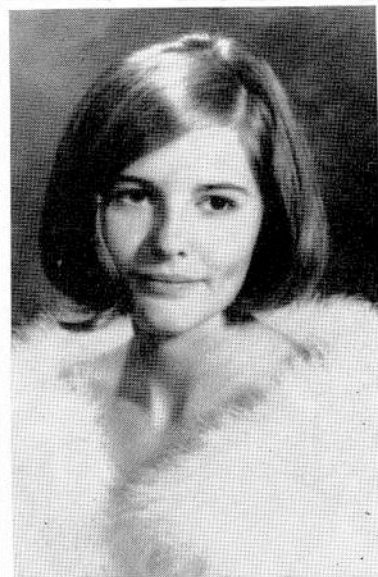
Bill Grubb and Carl Dorr handed Melton Hill golfers a hot hand last week, turning in cards of 34!

Other league action saw Harold Alvey with a 31 handicap score.

League standings follow:

Team	W	L
Rogers-Verner	24	6
Alvey-Dorr	19	11
Reed-J. Sherrod	18	12
Wetzel-Hatmaker	18	12
Babb-Baker	17	13
Crowder-Buxton	16	14
McDonald-Green	16	14
Grubb-Wright	16	14
Waldrop-S. Babb	14	16
McElroy-Butturini	13	17
Strike-George	12	18
Nixdorf-Holdaway	9	21
W. Sherrod-Wyrick	9	21
D. Thompson-R. Thomason	9	21

Among Jacksboro Hi's Honor Grads



Linda Evans

James L. Evans ... or Leo ... down in the General Machine Shop in Y-12 is a proud parent these days. His daughter Linda finished in the top five scholars at Jacksboro High School recently.

Linda was named the top math and top science student among the 114 graduates at Jacksboro. She has been accepted at Carson Newman College, where she will enter this fall to study education.

The Evanses live at Route 2, Caryville.

ACCIDENTAL DEATHS

Accidents in the United States during 1969 took the lives of 116,000 persons, injured an additional 10.8 million — including 400,000 who suffered some degree of permanent impairment — and cost the nation more than \$23.5 billion. In the last decade the number of accidental deaths has increased 26 per cent.

Y-12's Eagles, Snakes, Rangers Share Lead in Tight Softball Tournament

Two Y-12 teams squared off the week of June 15 in the Softball League, as the Snakes trimmed the wings of the Eagles 13 to 10, despite the fact the birds out-hit the Snakes 17 to 15.

Earl Nall, Hal Conners and Horace Moorman all hit important homers for the winners.

The Rangers outclassed the NC Squad 20 to 2 in Monday's second game.

Three Home Runs!

Jim Shoemaker hit three homers for the Colts in Monday's final game, helping them win 17 to 8 over the Bat Boys. Jim Treadwell and Woody Duncan also homered for the big K-25 team.

June 16's action began as the Gashouse Gang downed the K-25 Devils 9 to 4.

The All Stars outshone the Braves 14 to 2 Tuesday, as Lewis Alley, Dick Graham and Pete Bovine hit four-baggers.

The Buccaneers edged by the Raiders in final action Tuesday 13 to 10. Floyd Wells and Pete Psihogia homered for the winning cause.

Make-up Games

Make-up games June 17 began as the Rangers slipped by the Devils, from K-25, 13 to 12. Bob Thomas fired an all-important home run for the victorious Rangers.

The big Colts clipped the Buccaneers 9 to 1 in the second make-up fight. Jerry Howard hit the only big homer for the Colts.

The Bat Boys beat the Knockers 12 to 8, as their George Reece ran 'round the bases twice, and Lynn Ed Story and Tommy Smith, homered once each.

Back to regular action Thursday, June 18, the Devils put the Braves down 14 to 7. Harold Smith sailed one over the fence for the losing Y-12 team.

The Rangers eked out a slim win over the K-25 Colts 4 to 3, as the K-25 team earned two homers off the bats of Wes Peters and Jim Treadwell for two of their three runs.

Last Monday, June 22, started with the Gashouse Gang in a resounding rout of the Raiders 15 to 6. Ron McElhaney, Phil Brady and Phil Gore all hit big ones for the winners. ... Jim Turner for the losing squad.

The Buccaneers put the NC Squad down 7 to 2, as Randy Collins put one over the fence.

Eagles Win 21 to 1!

The Eagles played around with the Knockers 21 to 1, in a one-

sided affray Monday to end the action. Don Ferree and Hugh Richards poled big ones.

Last Tuesday saw the Snakes in a close one over the Bat Boys 5 to 4. Hal Conners hit a winning homer; Tom Smith sailed one into the grass for the losing squad.

The Eagles again decimated the Gashouse Gang 15 to 2. Fred Mundt accounted for the only big one for the winners; while Rick Carson kicked one out for the losing team.

The K-25 Devils made hash of Beta 2's Miners 33 to 5. Horace Miller homered thrice; Gene Hawkins twice.

One game got rained out last Tuesday.

Braves Beat Squad

Last Thursday began with the Braves outscoring the NC Squad 10 to 8, despite the fact they trailed in hits 12 to 15.

J. D. Kelly killed one out of the park for the Braves; Dave Post put one out of commission for the losing team.

The Snakes, with everybody in the four-bag column almost, got their kicks from the Knockers 23 to 3. Bob Culton, Bill Maddux, Earl Nall homered, and John Telford had a hot night with the stick, getting three!

And finally the Rangers ran over the Raiders 18 to 11. Getting two homers was Wayne Silvers; and earning one each were Whit Whittlesey, Don Weiger, Don Forrester and Bob Thomas.

Team	W	L
Eagles	7	1
Snakes	7	1
Rangers	7	1
K-25 Colts	6	1
All Stars	5	1
K-25 Gashouse Gang	6	2
Buccaneers	3	4
K-25 Devils	3	5
9103 Braves	3	5
Bat Boys	2	5
Beta 2 Miners	2	5
NC Squad	2	6
Raiders	0	8
Knockers	0	8

Siren Test Is Set For Y-12 Sunday, July 5th

A regularly scheduled siren test will be heard in Y-12 at 9 a.m. Sunday, July 5. The test will be the attack warning (wail of the siren up and down for three minutes).

Signals on Buildings 9201-3, 9996, 9204-4 and 9213 will be tested. These will encompass the attack warning only.

A voice announcement will precede the tests on the plant intercom system. Employees need not leave their work stations Sunday, July 5, for the tests.

Tee-Off Time Application For Whittle Springs Golf Tournament

Knoxville, Tenn.

Saturday, July 25

Foursome

_____, Leader

Leader's office phone _____

Home phone _____

Tee-off Time Preferred _____

Fill out completely and return to the Recreation Office, Building 9711-5. Deadline for entering is 4:30 p.m. Wednesday, July 22. Tee-off times will be drawn the next day, Thursday, July 23 at 8 a.m.

Flood Sons Serve In Armed Forces



Lieut. and Mrs. Flood

John M. Flood, son of the Charles H. Floods, 518 Scenic Dr., Clinton, was recently commissioned a second lieutenant in the U. S. Army. The commission came after his graduation with a BS degree in education from Tennessee Technological University, Cookeville.

Lt. Flood will report for active duty late in August to Ft. Knox, Ky., and will be assigned to the Armored Division. He and his wife, Teresa, are residing presently in Cleveland where he is employed.

Attending the ceremonies were his parents and his brother Charles H. "Chuck" Flood and his wife, Donna. Chuck, who is stationed with the Navy at Norfolk, Va., is currently on a Caribbean cruise.

Both the Flood parents are Y-12ers; Charlie is in Environmental Control Engineering, and Theresa is in Materials Engineering Development.

White-Gallman Eke Into Slim South Hills Lead

South Hills golfers week before last saw Bud Leete card a low 38 score for honors, as George Cantrell turned in a 34 handicap score. The Sise papa and son combo scored a total of 73 in individual scoring.

Last week F. K. Clabough led the pack with a 41; J. S. Oakwood tallied a 33 handicap total. Clabough and Jay Sewel scored an 82 combined score, and Oakwood and Bud Leete carded a 75 handicap total.

League standings follow:

Team	W	L
White-Gallman	24	6
Loupe-Phillips	22	8
Parrott-Parker	22	8
Joest-Pappas	18	12
Sise-Sise	17	13
Clabough-Sewell	16	14
Ellis-Ridings	16	14
Oakwood-Leete	14	16
Dobbs-Cogswell	14	16
Bell-Gresham	11	19
Huber-Parker	5	25
Jones-Cabe	1	29

Three Big Teams Share Southwest Point Lead

The Southwest Point golf league saw Dick Wilkey and Hugh Henderson, along with Larry Jones, all score a 38 scratch score ... as the Jones-Morgan pair took a one-point lead over opponents.

Last week, Jones, Ben Stanton and Steve Stark all carded 36 scores. Two teams, Bolt-Pelfrey and Henderson-Stanton moved in to share the lead with Jones and Morgan.

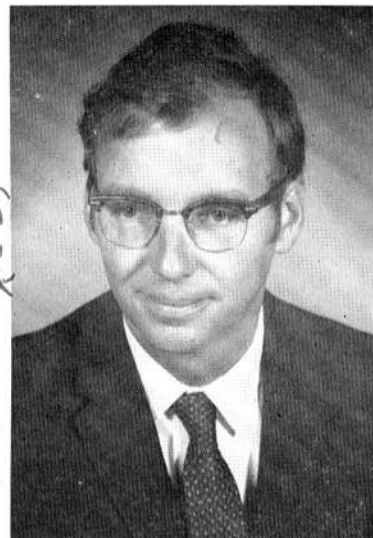
League standings follow:

Team	W	L
Jones-Morgan	17	1
Bolt-Pelfrey	17	1
Henderson-Stanton	17	1
Stark-Wilkey	12	6
Mee-Wright	4	14
Boyd-Bush	3	15
Briscoe-Williams	2	16
Plemons-Roberts	0	18

THE CARBIDE COURIER

Thursday, July 2, 1970

Page 3



Ronald M. Keyser

Lab Notes

Rebecca Denise Henderson, daughter of E. R. Henderson of the Isotopic Analysis Department and Mrs. Henderson, has been named Little Miss Centennial as part of Loudon County's Centennial celebration June 13-20.

Rebecca was crowned at Loudon High School and rode in the centennial parade in both Lenoir City and Loudon.

Mr. J. H. Junkins of the Technical Information Department, Laboratory Division, and family are touring the British Isles from June 18 to July 8.

Vacation—A peaceful rest or a rest in peace?

UT Awards Keyser PhD In Chemistry

Ronald M. Keyser, Material Development Department, Gaseous Diffusion Development Division, has been awarded a Ph.D. degree in chemistry from The University of Tennessee.

Keyser came to K-25 on April 1, transferring from ORNL where he had been employed since October, 1961. He is a native of Wilmette, Ill., and graduated from Denison University in Granville, Ohio. He holds a master's degree in chemistry from Northwestern University.

Keyser's dissertation is entitled "An Electron Spin Resonance Study of Trapped Electrons in Gamma Irradiated Hydrocarbon Polymers."

Married to the former Nancy Schad of Waukegan, Ill., the Keyser's have two boys, ages 9 and 6. They live at 125 Nebraska Avenue in Oak Ridge.

Different Approach

A unique approach to safety meetings was recently used in a presentation to the Compressor and Stage Equipment Development and the Instrument and Control Systems Development Departments. Four of the newer members of the departments participated in the program, consisting of an emergency safety questionnaire and a slide presentation.

The questionnaire was made up of 15 questions related to what



BOUND FOR Y-12—This air lock, fabricated at ORGDP is a part of the dry room assembly. It is loaded ready for transporting 'up-the-road.'

'Dry Room' Fabricated In K-25 for Y-12 Plant

Fabrication and Maintenance Shops have recently completed a dry room for the Y-12 Plant. This latest fabrication will be used by Y-12 for production activities that require a clean and dry environment.

Absolute filters will be used to filter out particles as small as .3 microns. The temperature will be held to $70^{\circ} \pm 2^{\circ}$ and the moisture content will be kept extremely low—about 50 times dryer than the Sahara Desert on a hot summer day. Space suits will be worn by the assembly personnel. The leakage permitted in these suits is less

than required by NASA in the lunar space suits.

The Fabrication and Maintenance Shops were selected as fabricators for this dry room for two reasons: they had successfully built a smaller dry room for the Alpha 5 building, and they had work areas available at the K-25 Power House for fabrication of the larger sections, which could then readily be moved to Y-12 for erection by Rust Engineering. Fabrication at any site other than Oak Ridge would have seriously complicated shipments of these components.

The sections made at the Power House were the filter plenum, the fan house, and the ceiling panels, which were made from 11 gage steel. The balance of the components were made in the K-1401 Shops.

Fabrication of this room was accomplished within tight schedule requirements.

Catch A Fish?

If you catch a big fish or even a medium-sized fish you might win a prize in the annual K-25 Fishing Rodeo. Last year there were not enough entries in several species to win the prizes that were allowable. Eleven species are included in the contest—largemouth bass, smallmouth bass, striped bass, rock fish (includes hybrid), walleye pike, sauger pike, crappie, blue gill (bream), muskie, rock bass (red eye), and trout.

Carry some entry blanks with you when you go fishing and if you catch a good one, enter it in the Rodeo. Entry blanks may be obtained from the Recreation Office, in the front of the Cafeteria Building, phone 3-3097.



COMPLETE TRAINING COURSE—Four employees at the Oak Ridge Gaseous Diffusion Plant recently completed the Operator Training Course conducted by the plant's Operations Division. They are: Thomas Walker, Knoxville; V. E. Phillips, Oliver Springs; Riley Wilkerson, Jr., Clinton; and C. L. Eskridge, Rockwood. The course covers 15 months of classroom and on-the-job training in skills required to operate the various equipment in the gaseous diffusion isotope separating process. From left are: R. H. Dyer, Cascade Operations Department Head; Walker, Phillips, Wilkerson and Eskridge; and L. J. Davis, operations training coordinator.

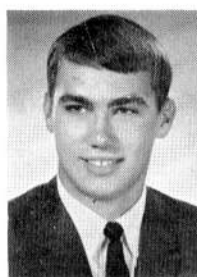
Pryor Son Awarded The Army's Silver Star Medal

Army Sgt. Robert J. Pryor, son of Perry Pryor, General Accounting and Finance, was decorated recently with the Silver Star during the monthly parade ceremonies at Goodfellow Air Force Base at San Angelo, Tex. Pryor is an instructor in the U. S. Air Force Security Service School stationed at Goodfellow.

He distinguished himself while serving on an airborne mission over Vietnam. According to the citation accompanying his award, on February 12, 1969, the plane in which he was a crew member came under hostile fire and was forced to land in enemy territory.

Pryor and his fellow crew members took up a defensive position near the aircraft until they ran out of ammunition and were captured. "Pryor's extraordinary heroism in close combat against a numerically superior Viet Cong force and his silence in the face of enemy interrogation reflects great credit upon him, his unit, and the United States Army," said the citation.

Congratulations and Best Wishes to Our High School Grads



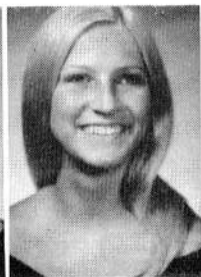
JOHN W. AMBURGEY III
Oak Ridge
J. W. AMBURGEY
Separation Systems



JOHN STEVEN ARENDT
Oak Ridge
J. W. ARENDT
Laboratory



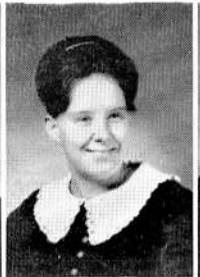
LINDA BELLAMY
Knox Central
GERALD BELLAMY
Fab. & Maint.



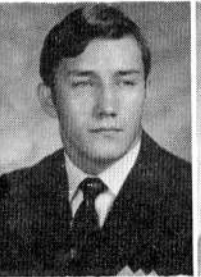
CHERYL BLAKENEY
Knox Central
L. O. BLAKENEY
Operations



REBECCA BORDES
Knox Central
EDWARD BORDES
Fab. & Maint.



JANICE BRADLEY
Hobe Sound Academy
CHARLIE BRADLEY
Fab. & Maint.



DONALD N. CANTWELL JR.
Roane County
D. N. CANTWELL
Fab. & Maint.



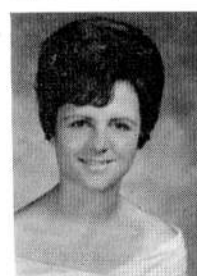
SUSAN E. COOPER
Oak Ridge
RAY COOPER
Engineering



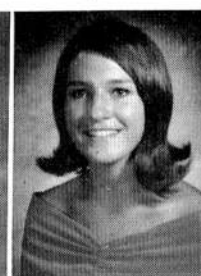
DOUGLAS E. FAIR, JR.
Oak Ridge
D. E. FAIR
Gaseous Diff. Devop.



WILLIAM VERNON GAINES
Spring City
E. C. GAINES
Operations



VICKIE LYNN GALYON
Harriman
J. M. GALYON
Purchasing



ELIZABETH ANN GREENE
Bearden
R. A. GREENE
Engineering



REBECCA JO HALL
Oak Ridge
W. H. HALL
Laboratory



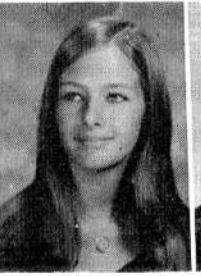
STEVE HARRIS
Powell
GEORGE HARRIS
Separation Systems



GARY A. JONES
Coalfield
J. A. JONES
Operations



RONNIE JONES
Oak Ridge
TOMMY JONES
Separation Systems



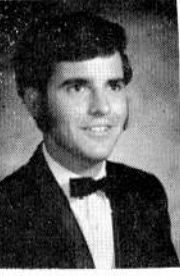
SHEILA JUDD
Roane County
JACK B. JUDD
Fab. & Maint.



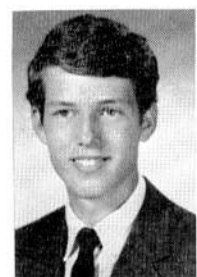
MICHAEL KELLY
Oak Ridge
BERT M. KELLY
Operations



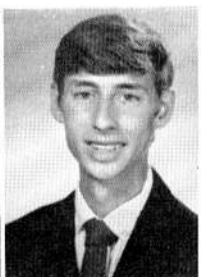
DEBBIE KYTE
Knox Fulton
WAYNE KYTE
Fab. & Maint.



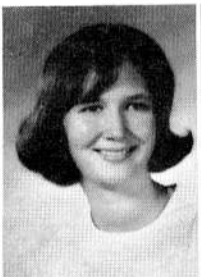
PHILLIP M. LEINART
Karns
JOE. E. LEINART
Operations



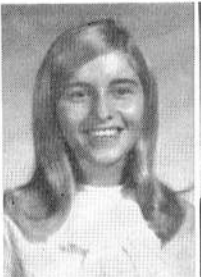
MICHAEL LINKOUS
Oak Ridge
A. C. LINKOUS
Guard Department



JOHN BRIAN MALLET
Oak Ridge
A. J. MALLET
Laboratory



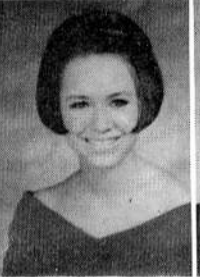
CHRISTINA MARTIN
Oak Ridge
E. F. MARTIN, JR.
Plant Expansion



SHARON MCCREARY
Halls
T. L. MCCREARY
Guard Department



MIKE MCGAHA
Farragut
A. O. MCGAHA
Operations



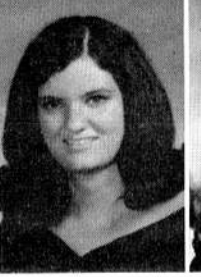
DENISE MEDVED
Powell
M. D. MEDVED
Engineering



MICHAEL W. NICHOLS
Knox Central
RICHARD NICHOLS
Barrier Development



W. T. NORTHCUTT III
Oak Ridge
W. T. NORTHCUTT, JR.
Operations



SANDI PHILLIPS
Lenoir City
R. L. PHILLIPS
Fab. & Maint.



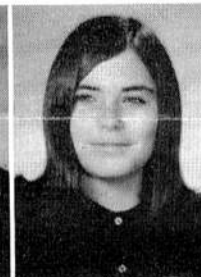
PAT REASOR
Oliver Springs
T. I. REASOR, JR.
Fab. & Maint.



GALE ROSANDER
Roane County
H. G. ROSANDER
Fab. & Maint.



JOSEPH A. SCHARITER
Roane County
JOHN SCHARITER
Barrier Development



CARMELLA SENATORE
Oak Ridge
S. J. SENATORE
Engineering



RUTH THOMPSON
Farragut
JACK THOMPSON
Barrier Development



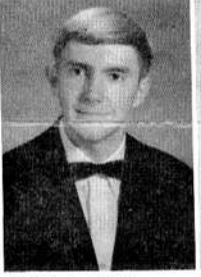
CARMEN TRAMMELL
Oak Ridge
H. E. TRAMMELL
Gaseous Diff. Devp.



DIANE WALLACE
Oak Ridge
R. C. WALLACE
Engineering



DEBBIE WARRINGTON
Karns
E. P. WARRINGTON
Fab. & Maint.



BRUCE L. WEBB
Farragut
B. R. WEBB
Operations



LARRY WILLS
Knox South
WOODROW WILLS
Fab. & Maint.



CATHERINE ANN ZIELKE
Oak Ridge
K. T. ZIELKE
Laboratory

Summer Camp Honors



Roger L. Childs, painter trainee in the Buildings and Grounds Department, recently was selected as the guardsman who had done the most outstanding job in two weeks of active duty summer training at Fort Shelby, Miss. Childs is a member of A Company 5-109, 30th Armored Division, headquartered at the Clinton Armory. He has been a member of this unit for almost five years.

Childs was selected for this honor by the noncommissioned officers in the company.

AECOP's Wood Is At ANS Meeting

Phillip M. Wood, staff member of the Atomic Energy Commission Combined Operations Planning (AECOP), is presenting an invited paper at the American Society Meeting in Los Angeles, Calif. The meeting is being held from June 29 through July 2.

Currently, Wood coordinates the Industry Analysis program conducted in AECOP, a multi-contractor group administered by Union Carbide Corporation's Nuclear Division for the AEC. He has had extensive experience in commercial reactor design including service as manager of the Nuclear Design group for the largest power reactors offered by Westinghouse. Currently assigned to AECOP's Washington, D. C. office, he also provides liaison with the AEC and other groups required for AECOP's programs.

His subject at the ANS meeting was "Isotope Production in Commercial Power Reactors," in which he discussed the present status and future potential of producing large quantities of isotopes in commercial nuclear power reactors.

THE CARBIDE COURIER

Published Biweekly

Editor H. J. Mayberry
K-1002 Building, Tel. 3-3097

Eskridge Son Takes Honors at Fort Knox



Pvt. John C. Eskridge

Army Pvt. John C. Eskridge, son of Jewell C. Eskridge, K-32 Operations, recently was his company's high scorer on the physical proficiency test, held at the end of his basic training cycle at Fort Knox, Ky. The rigid test, based on skills that require coordination and endurance, is designed to evaluate a soldier's capabilities and to determine whether he has the stamina needed in battle.

Eskridge plans to make a career in the Army.

From Our Retirees

"Just a line from an old retiree—R. A. Bates. Greetings! Every person over 60 years of age should make a visit of at least two weeks to this island (Hawaii). Our group, consisting of my son Don, his wife Joann, and their two children—Vicki and Donnie, Jr., and my wife and I left Oak Ridge on June 6 at 7:30 a.m. and arrived here on Waikiki Beach the same day between 3:00 and 4:00. Since then we have traveled to every part of the Island of Oahu by car, have three more islands to go.

"This vacation is a combination of my birthday, our 48th wedding anniversary and father's day, a present from our son Don (ORNL) and his family. We are having a ball down here.

"I wish everybody at ORGDP the best of everything. A special hello to Joe Dykstra, Cecil Parker, John Eppling, Bucky Walters, Alan Jordan, Jack McKinney, Marie Hester, and Lois Green."

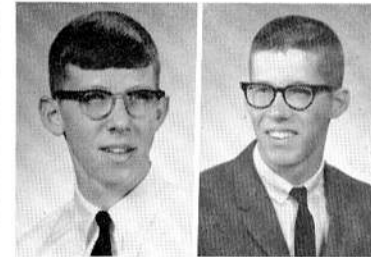
R. A. Bates
(Honolulu—June 14, 1970)

SAFETY SCOREBOARD

OUR PLANT
Has Operated
196,000 Safe Hours
Through June 25

Since last disabling injury on June 11

Orrison Sons Attend Auburn University



David and Robert

David C. Orrison, son of Robert G. Orrison, in the Chemical Engineering Group of the Process Design Department, Engineering Division, received credit for 15 hours of freshman mathematics because of his high scores on the advanced placement tests at Auburn University.

David completed his pre-engineering studies and, starting last September, entered the Auburn School of Engineering as a co-op student in civil engineering. His shared-work assignment is with Southern Railway in Atlanta, Ga.

Robert G. Orrison, Jr., also is a co-op in his junior year at Auburn, where he is majoring in aerospace engineering. His outside work assignment is with Pratt and Whitney in West Palm Beach, Fla.

Safety is common sense watching its step.

Iran Battery Firm Purchased by UCC

Purchase of a majority interest in an Iranian company that produces and markets dry cell batteries has been announced by Birny Mason, Jr., chairman of the board of Union Carbide Corporation.

The company, now known as Union Carbide Iran S. A., has undertaken a modification and expansion of existing plant facilities. The entire project is expected to be completed by the middle of 1972.

The new company is producing three of the important round-cell types of batteries for flashlights, transistor radios, and general applications. These are being sold under the well-known Eveready trade mark, which is enjoying good consumer acceptance in Iran.

Retirees Are Planning Two Summer Outings

The Oak Ridge Chapter of American Association of Retired Persons is planning two outings for the summer months. Scheduled July 23, 24 is an overnight trip to Cherokee, N.C., to see "Unto These Hills," Thursday, and on to Asheville Friday for a tour of the Biltmore Estate.

Reservations must be in by next Thursday, July 9. Reservations may be made by telephoning Oak Ridge 483-7421.

August 18, 19, is set for a stop at Cumberland Falls, Ky. and a trip to Bardstown, to see "Stephen Foster Story."

The price of each trip is \$25. All Union Carbide employees and retirees are invited to attend the AARP meetings. They are held each third Thursday at 1:30 p.m. in the Ridge Hall.



FINISHING TOUCHES—The new sign points out, among other things, the entrance to the new visitors' parking lot at the top of the hill overlooking the Administration Building (9704-2). Workmen are shown putting the finishing touches on the parking area, which is now open to Y-12 visitors.

Lane Controls

(Continued from Page 1)

Portal entrance for westbound traffic. The sign here applies to motorists entering Central Portal which allows vehicles to make a left turn from the reversible lane. The Red X and slanting flashing arrow apply to through traffic continuing on to West, Pine Ridge, and Bear Creek parking lots.

SPORTING INCOME

Hunters and fishermen spent a record \$168 million for licenses, tags, permits and stamps during the past fiscal year, according to the Interior Department's Bureau of Sport Fisheries and Wildlife. Hunting license holders numbered nearly 15 million and fishing licenses holders increased to more than 23 million. (In Tennessee the licenses are one and the same.)

Summer Dance Set By CRC, July 17, Here

The Atomic City Sportsmen and the Community Relations Council are planning a dance Friday, July 17. It will begin at 9 p.m. at the Oak Ridge Armory.

Featured will be Earl Armstrong and the Flamingos. Janette Young will be the featured vocalist. A \$3 per person donation will go to the Peter Bynam Scholarship Fund.

Tickets are available from Y-12ers Wilbert Minter, extension 3-7213, and Chalmers Wilson, 3-7102.

FLOOD OF CHECKS

More than 20 billion checks moved through the banking systems last year in this country. Today's average check amounts to \$350 and an estimated 90 per cent of money transactions are paid by check.

Carbide Jaycees Are Leaders In State 'Help-Peru' Project

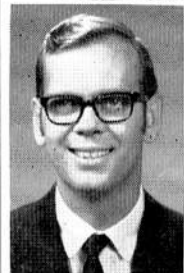
Y-12's Jim Jordan and Art Mallard are leading a number of Carbide volunteers, mostly members of the Jaycees, in the community effort to aid earthquake victims in Peru.

Jordan, who is Oak Ridge Jaycee president-elect, suggested the project locally and to other chapters throughout the state. "And now more than 6,000 are working throughout Tennessee," he reports.

Thousands Killed or Hurt

Mallard is Oak Ridge project chairman, and Jordan is the East Tennessee coordinator for some 70 Jaycee chapters from Chattanooga through the Tri-Cities area.

The disaster has killed thousands — some estimate as many as 55,000 — and injured some 150,000. "To help them, we hope to collect as much clean winter clothing, blankets, cash, food and medical supplies as possible," Jordan said.



Jordan

How can other Carbide employees help? "Call me at 482-4719, after work, and I'll fill you in," Mallard offers. "If you have materials to contribute, we'll arrange a pickup point or volunteer Jaycees will come by if necessary."

From Oak Ridge, the contributions will later be trucked to the Knoxville airport, one of six major pickup points throughout Tennessee. Other state points are Johnson City, Chattanooga, Nashville, Memphis, and Jackson. "We don't have an absolute

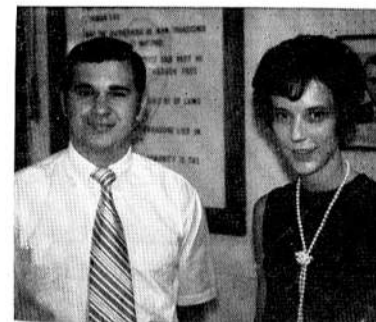
deadline yet," Jordan said, "but the time limit depends on when arrangements are completed for flying everything to Peru."

Two large planes have been volunteered — one by Braniff Airlines and the other through the Air National Guard (with government approval) — but other problems remain, he explained.

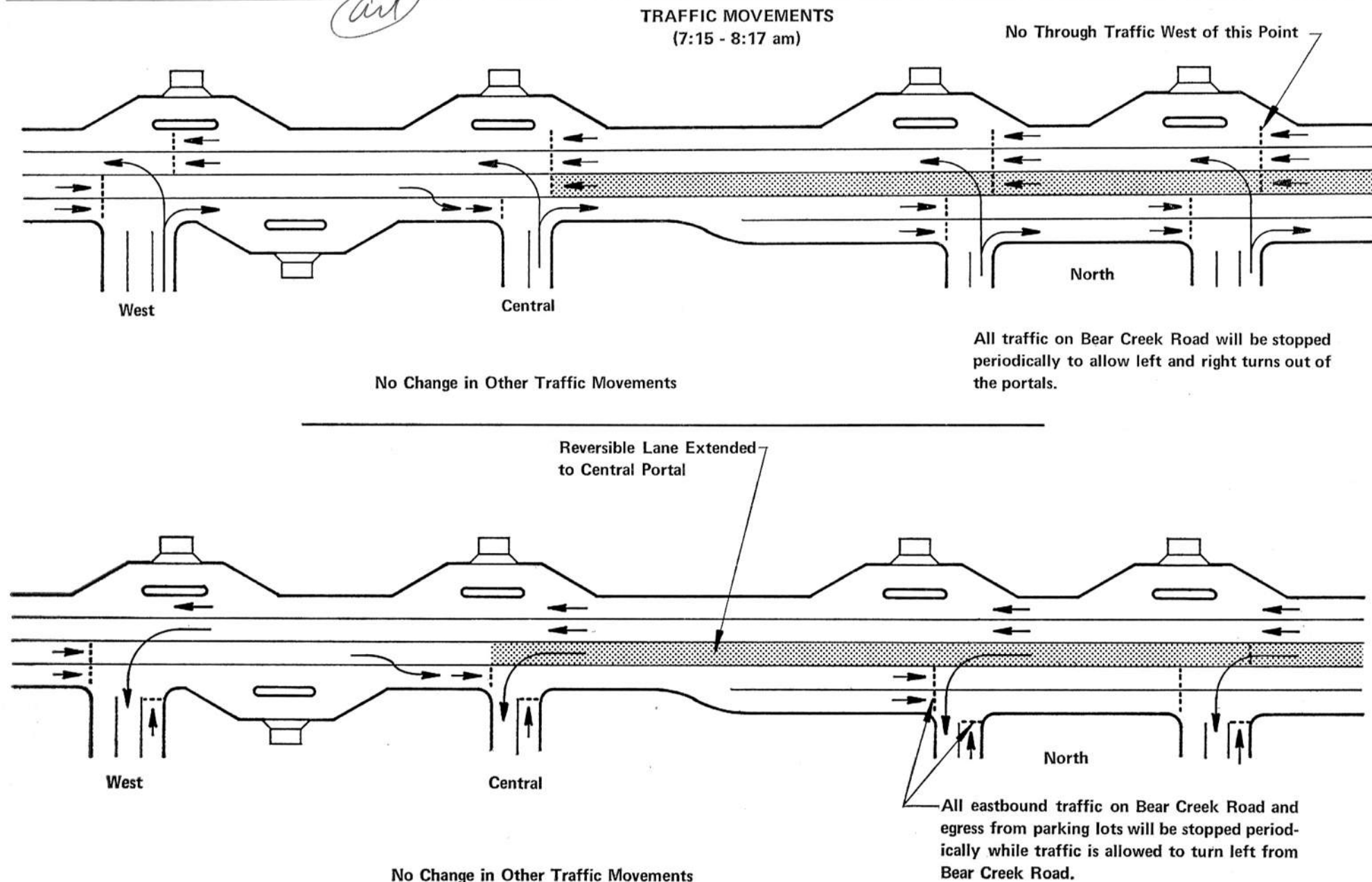
All Gifts Tagged

"For one thing, Peru has only one airport large enough to handle planes like the ones we're sending in. Of course, other nations and institutions are trying to help, and the maze of priorities and logistics must be settled by Peruvian authorities. When they OK our flight though, we have to be ready to go."

All gifts will be tagged with names of towns to identify the donors. "The Jaycees are an international organization," Jordan commented, "and we welcome opportunities like this to help man and foster mutual understanding and concern."



PERU DRIVE LEADERS—Left, Jaycee Oak Ridge chairman Art Mallard (Y-12) and, right, Jaycette local chairman, Mrs. L. C. (Charlotte) Parker.



LIGHTNING — — —

2-Way Street to Heaven?

By T. A. LINCOLN, M.D.

Most people assume that lightning kills instantly. Technically, this may be true, but the chances of survival with vigorous resuscitation are surprisingly good.

The National Safety Council reports that there are about 150 to 175 lightning deaths a year in this country. The Metropolitan Life Insurance Company's estimates are considerably higher—about 300 a year. Although statistics on nonfatal



Dr. Lincoln

lightning accidents are difficult to accumulate, several studies in Europe show that about as many persons survive lightning accidents as are killed.

Tremendous electrical energy builds up in clouds. Updrafts which bring moisture up into the colder atmosphere produce ice particles which generate static electricity. The upper layer of the storm cloud becomes positively charged and the underside negatively charged. The earth develops a positive charge and the lightning arcs to the ground to neutralize this charge difference. A lightning stroke may contain from 12,000 to 200,000 amperes. For comparison, the current in a 100 watt electric light bulb is less than one ampere.

Different Effects

The effects of lightning are somewhat different from electrocution. In the latter, the heart beat is stopped. But when it starts beating again with resuscitation, the ventricles usually fibrillate. For this reason, rescuers have to maintain the circulation using closed chest cardiac massage until the victim can be moved to an emergency room where his heart can be defibrillated. Continuing adequate massage during the ambulance trip is difficult. Portable defibrillators are available, but most ambulance crews are not adequately trained to use them.

With a lightning shock the heart stops, but with resuscitation it usually starts again with a regular rhythm. For this reason, immediate and vigorous mouth-to-mouth rescue breathing and cardiac massage are more likely to save a life.

Lightning victims seem to tolerate their "deaths" better than electrocution or heart attack victims. The reason is not clear, but it may be that the metabolism of the brain is stopped more completely and can therefore tolerate the absence of circulating oxygen for a longer period.

Case Repeatedly Cited

One case that is repeatedly cited in the literature on lightning involved a 10-year-old boy who did not have cardiac resuscitation started until 22 minutes after he was struck. He had never been seen to breathe and artificial respiration had been delayed at least seven minutes. When he arrived at the hospital he was assumed to be dead. (Normally, effective resuscitation must be started within three to five minutes to prevent severe brain damage.) Nevertheless, the emergency room began cardiac massage and vigorous resuscitation. His heart started to beat and he began to breathe. His body temperature was lowered as quickly as possible in a hypothermia device to reduce the effect of the prolonged oxygen deficit on his brain. He was comatose for six days, but 29 days later he was discharged from the hospital almost completely recovered. He had a slightly nasal speech, but his intelligence was not impaired.

Although a surprising number of lightning fatalities occur on golf courses, they may occur anywhere, so a few common sense precautions should be followed.

Do not raise a golf club or umbrella over your head if out in an opening during a thunderstorm. Do not wait until a storm begins. Fatal lightning strikes have occurred with the sun still shining but with storm clouds gathering. The best indication of potential danger is a large amount of static on your AM radio. Avoid high open places and do not stand under isolated or small trees. Do not go near tractors, golf carts or farm machinery. Do not run through a clearing. If inside, do not stand between an open door and an open window.

If you cannot get to a shelter, get as low as possible as in a valley or deep in a woods. If in an opening, take off your raincoat and lie on it. Even if you have no raincoat, lie down;

Technical Calendar

July 2

Molecular Anatomy Program Seminar: Radioisotope Studies of Etorphine—An Extremely Potent Morphine-Like Drug. H. E. Dobbs, Pharmaceutical Research Laboratory, Reckitt and Sons Limited, England. Large Conference Room, Building 9207, 3 p.m.

July 6

Special Laboratory Seminar: "Some Thoughts About the Future," D. J. Rose. Central Auditorium, Building 4500-N, 3 p.m.

July 10

Physics Division Seminar: "Superconducting Linear Accelerators for Heavy Ions," C. M. Jones. East Auditorium, Building 4500-N, 3:15 p.m.

Biology Division Seminar: Mechanisms for Introducing Genes Into Insect Populations for Their Control. M. J. Whitten, University of Chicago and Division of Entomology, CSIRO, Canberra, Australia. First Floor Tower Annex Conference Room, Building 9207, 12:15 p.m.

July 16

Biology Division Seminar: Chromosomal Proteins as Regulators of Transcription in Eukaryotes. John Paul, Royal Beatson Memorial Hospital, Scotland. Large Conference Room, Building 9207, 3:30 p.m.

Lake Water Is Safe, Dr. Lincoln Reports

Every year a rumor is revived that there is danger of typhoid from swimming at Clark Center Recreational Park on Melton Hill Lake.

T. A. Lincoln, Medical Director, Health Division, Oak Ridge National Laboratory, has issued the following statement: "The water contains no such hazard. The lake is periodically checked by our Industrial Hygiene Department, and these findings are further verified by the Tennessee Department of Public Health, Knoxville Branch Laboratory. The latest check revealed only a small number of coliform organisms completely within safety limits for swimming. No typhoid organisms were found. As a matter of fact, as far as I can determine, there has been no case of typhoid in Tennessee in the past 20 years that can be said to have been contracted from swimming. Where the rumor started I am unable to determine."

getting wet won't hurt you. Also remember that an automobile with a metal top offers excellent protection.

Help for Victims

If friends are struck by lightning, devote your efforts to the one who appears dead. Those who are stunned will recover. They don't need your help. Give the "dead" victim the benefit of vigorous resuscitation and don't quit until a physician tells you to stop.

There may be complications such as burns and eye or ear injuries, but if a young lightning victim survives 24 hours he has a good chance of recovery with remarkably little disability. Even middle-aged or old adults can sometimes be saved.

Remember that being struck by lightning may be a two-way street to heaven—if your friends come to your rescue and know what to do.



UNION CARBIDE CORPORATION
NUCLEAR DIVISION
P. O. BOX Y, OAK RIDGE, TENNESSEE 37830

RETURN REQUESTED

(Do Not Forward—Return Postage Guaranteed)

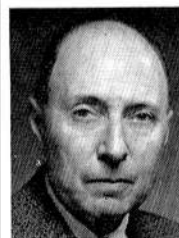
BULK RATE
U.S. Postage
PAID
Oak Ridge, Tenn.
Permit No. 71

Special TV Shows

Rotarians Back Youth Forum

The Oak Ridge Rotary Club with its Youth Committee has tackled the so-called "generation gap."

Television station WATE-TV, Channel 6, in Knoxville, is sponsoring a series of youth interviews in which nationally established experts and public figures answer questions from area teen-agers.



Dr. Wigner

Featured recently was Nobel Laureate Paul Eugene Wigner, world-renowned scientist who helped design and operate the first nuclear reactor at the University of Chicago in 1942. The team was successful in its race with the Germans to develop the atomic bomb. Dr. Wigner, currently professor of mathematical physics at Princeton and a consultant at ORNL, is considering retirement in Tennessee.

Other prior interviews include Tennessee Senators Albert Gore and Howard Baker and University of Tennessee professors Ruth Stephens and Richard Marius.

John Schacter, director of AECOP, is coordinating the programs.

A number of employees' children have been featured on the quizzes. In the Wigner interview were Kathy Breesee, Barbara Busing, Jonathan Cristy, Doris Doherty, Bob Ebe, Tom Ellison, Martha Elson, Mary Elson, Jim Gray, Hal Jernigan, Libby Snyder, Paul Weber, Mark Weisberg, Jossie Whittington and Spencer Zachry, all from Oak Ridge. From Knoxville were Bob Burroughs, Mary Griffin, Kay King

and Dale Rhinehart of Carter; Mike Dotson, Jack Huff and Bill Witherspoon of Doyle; Debbie Hudson of Farragut; Paul Ruth-erford of Gibbs; Anita Owenby of Halls; and Janice Carey and Candy Hodge of Powell.

Schacter said the Rotary Club's Youth Committee plans to continue taping interviews between the students and well-known experts in various fields of interest to today's youth.

Senator Howard Baker will be interviewed again by Anderson County youth Sunday, July 5, at 5 p.m. over WATE-TV, Channel 6. Baker will be quizzed on foreign and domestic issues by the local high school students.

Computer System

(Continued from Page 1)

Kertesz pointed out that the language translation system is important for world communications. "We cannot afford language barriers when we have such excellent opportunities for exchanging scientific and other vitally important information," he said.

Is the translation ready to go when it comes out of the machine? "It's rough," Hutton said, "but is usually usable if the reader has a good grasp of the field discussed in the translation. The important thing is that the reader can have a machine translation in hours, while he might have to wait weeks for a more nearly perfect, human translation."

"We have excellent key-punchers and staff who handle our Russian translations," he reports, emphasizing that none of them at CTC can actually read or speak Russian. "Our vocabulary is improving, and as it grows, so will our services."

PH 70 1141 K-25



HELP IN PROGRAM—Key personnel for the CTC's Russian-to-English translation program are the six key-punchers who transliterate Russian text into English letters and symbols for "feeding" into the computer system. Seated, from left, are Mary Linda Moore and Jo Anne Hovater; and standing are Shirley Gentry, Phyllis Langford, and Linda McKinley. Hazel Elliott was on vacation when the picture was taken.